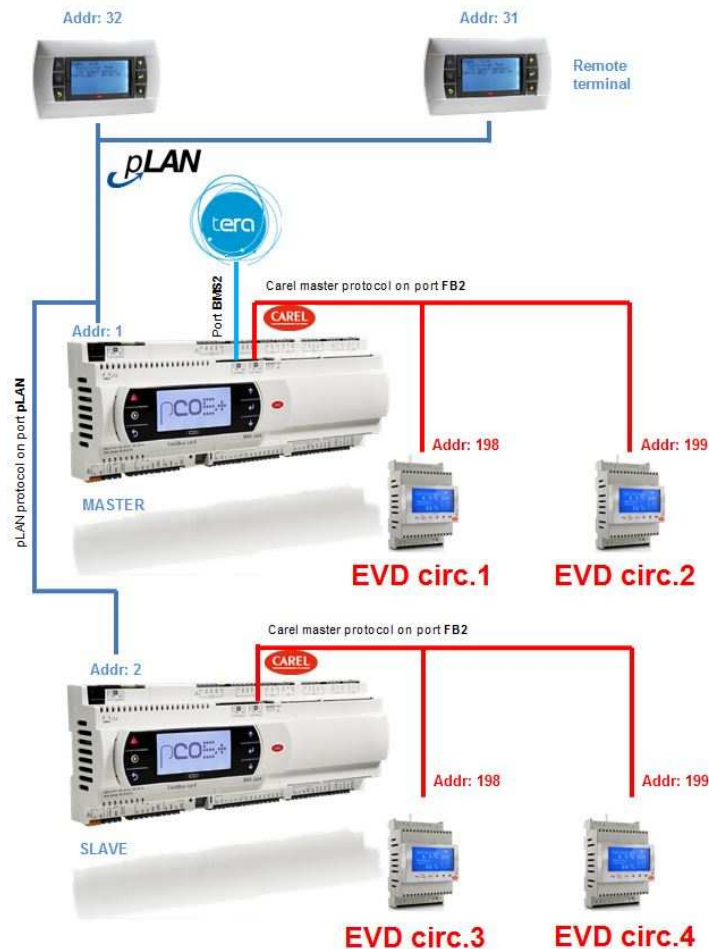


FLSTDmSCHE - Screw Chiller Application



Project description

Application for Screw Chiller Unit Management

- Up to 4 circuits: 1 Step/Stepless compressor per circuit
- Up to 2 circuits with 1 inverter compressor per circuit
- Air/Water & Water/Water.
- 4 EVD EVO Single (1 each circuit).
- Compressor envelope prevent management.
- Free cooling
- New user interface concept (Menu divided by devices).
- New alarm management.
- Easy customization of I/O, Compressor data, Default values.
- Advanced antifreeze management.
- Condenser fans anti-lock protection for cold climate.

- Reliable control of 4-way valve, also in case of blackout.
- Other functions:
 - Start-up PID and Running PID.
 - Run/stand-by compressors rotation.

Project aim

The aim of this project is to give the maximum reliability to the unit. This is achieved by giving maximum care to compressor management:

- respecting start-up/shutdown procedures and timings;
- by taking specific measures to ensure no liquid flood back to the compressor and to reduce warming up time;
- with prevent actions to avoid operating out of envelope.

Common functionalities are grouped into the same strategy.

This application was successfully tested on real units W/W and A/W 2 circuits; particular management of Frascold stepless valves was successfully tested at Frascold Laboratory. Successfully tested also with Bitzer Inverter Modbus Master controlled (A/W unit).

Main default settings

Communication settings

Protocol	Modbus Slave on BMS1,BMS2
Baud rate	19200 bps
Stop bit	1 (only this setting is available)
Parity	EVEN (only this setting is available)

EVD EVO are managed via Carel protocol

Protocol	Carel Master on FieldBus 2
Baud rate	19200 bps
Retry No	3
Timeout	500ms

Inverter compressors are managed via MBM protocol (optional)

Protocol	Modbus Master on FieldBus 1
Baud rate	19200 bps

Device addresses

EVD EVO	198 and 199 (Carel default for RS485 model)
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pLAN network addressing

- pCO5+ address (master) = 1

- pCO5+ address (slave) = 2
- pGD1 address = 32

Hardware and software requirements

- pCO5+M (1 circuit); pCO5+XL (2 circuits)
- PGD1 terminal. Not necessary if pCO has the built-in terminal.
- BIOS: Version \geq 6.33 (tested with 6.42)
- 1tool release: Version \geq 2.8.58

Software release notes

Fixed

- Stepless compressor speed increasing. Bug fixed, the capacity was limited to 50%
- Hanbell step compressor: during start-up phase the first valve activated was 50% and not the 25% valve.

Changed

- -

Enhanced

- -

Documentation

- Star/delta start up graph. New manual release 1.19

SchManager software

"SchManager_Setup_1.0.0.8.exe" needs FLSDmSCHE version \geq 1.7.0